Prototype Land Measurements Portal

MODIS/VIIRS
Science Team
Meeting
May 13-16, 2008

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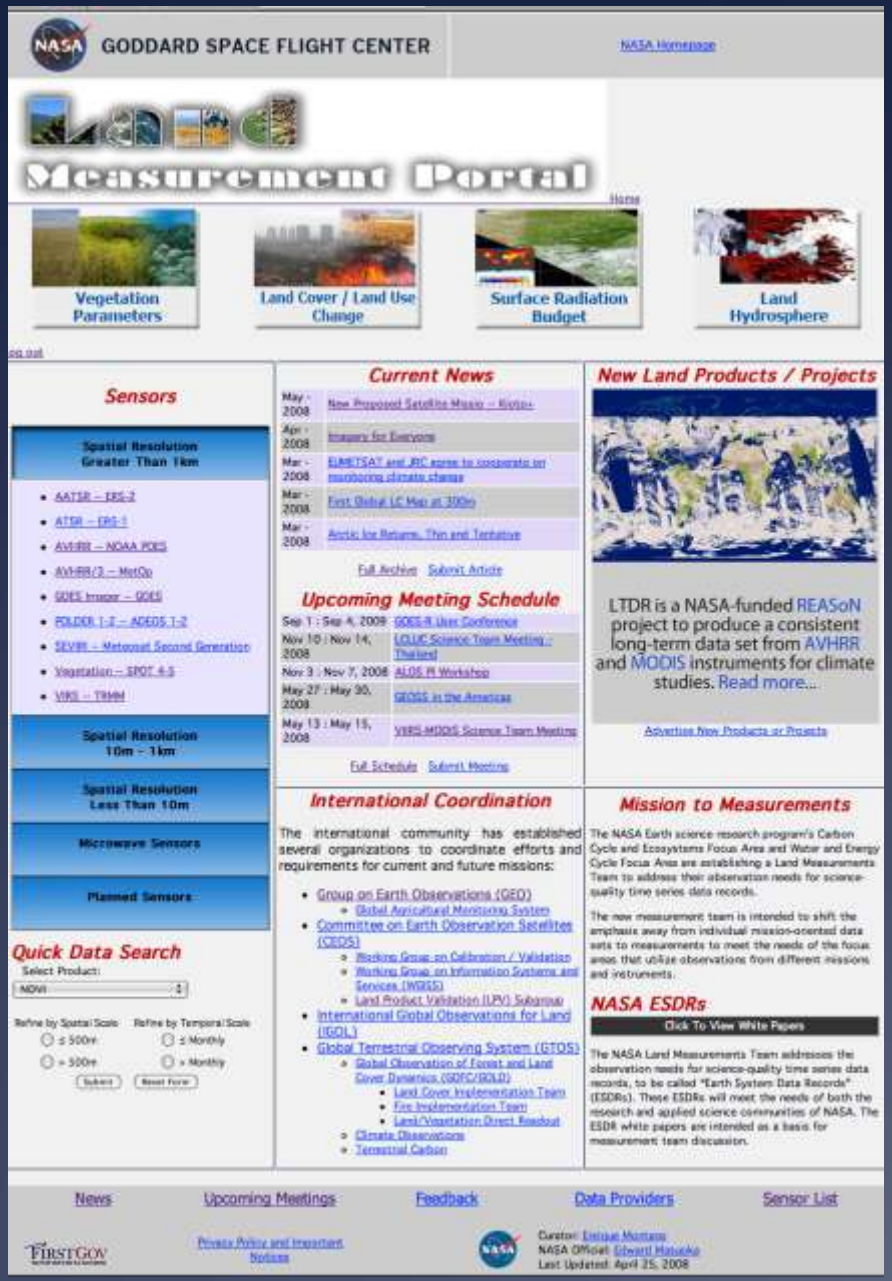
Chris Justice, UMD
Ed Masuoka, NASA

Land Measurements Portal

- The Land Measurements Portal provides a single location to find information and data products related to terrestrial observations.
- Promote new products and projects from sources other than agencies
- Sources of data now include:

NASA	USGS
ESA	JRS
JAXA	POSTEL
EUMETSAT	CNES
VITO	Multiple Universities

Home Page


GODDARD SPACE FLIGHT CENTER
NASA Homepage
Land Measurement Portal
Home
Vegetation Parameters
Land Cover / Land Use Change
Surface Radiation Budget
Land Hydrosphere
log out
Sensors
Spatial Resolution Greater Than 1km
AATSR – ERS-2
ATSR – ERS-1
AVHRR – NOAA POES
AVHRR/3 – MetOp
GOES Imager – GOES
POLDER 1-2 – ADEOS 1-2
SEVIRI – Meteosat Second Generation
Vegetation – SPOT 4-5
VIRS – TRMM
Spatial Resolution 10m – 1km
Spatial Resolution Less Than 10m
Microwave Sensors
Planned Sensors
Quick Data Search
Select Product:
NDVI
Refine by Spatial Scale
≤ 500m
> 500m
Refine by Temporal Scale
≤ Monthly
> Monthly
Submit
Reset Form
Current News
May - 2008 New Proposed Satellite Mission – Kyoto+
Apr - 2008 Imagery for Everyone
Mar - 2008 EUMETSAT and JRC agree to cooperate on monitoring climate change
Mar - 2008 First Global LC Map at 300m
Mar - 2008 Arctic Ice Returns: Thin and Tentative
Full Archive Submit Article
Upcoming Meeting Schedule
Sep 1 : Sep 4, 2009 GOES-R User Conference
Nov 10 : Nov 14, 2008 LCLUC Science Team Meeting - Thailand
Nov 3 : Nov 7, 2008 ALOS PI Workshop
May 27 : May 30, 2009 GEOSS in the Americas
May 13 : May 15, 2008 VIIRS-MODIS Science Team Meeting
Full Schedule Submit Meeting
New Land Products / Projects
LTDR is a NASA-funded REASoN project to produce a consistent long-term data set from AVHRR and MODIS instruments for climate studies. Read more...
Advertise New Products or Projects
International Coordination
The international community has established several organizations to coordinate efforts and requirements for current and future missions:
Group on Earth Observations (GEO)
Global Agricultural Monitoring System
Committee on Earth Observation Satellites (CEOS)
Working Group on Calibration / Validation
Working Group on Information Systems and Services (WGISS)
Land Product Validation (LPV) Subgroup
International Global Observations for Land (IGOL)
Global Terrestrial Observing System (GTOS)
Global Observation of Forest and Land Cover Dynamics (GOFC/GOLD)
Land Cover Implementation Team
Fire Implementation Team
Land/Vegetation Direct Readout
Climate Observations
Terrestrial Carbon
Mission to Measurements
The NASA Earth science research program's Carbon Cycle and Ecosystems Focus Area and Water and Energy Cycle Focus Area are establishing a Land Measurements Team to address their observation needs for science-quality time series data records.
The new measurement team is intended to shift the emphasis away from individual mission-oriented data sets to measurements to meet the needs of the focus areas that utilize observations from different missions and instruments.
NASA ESDRs
Click To View White Papers
The NASA Land Measurements Team addresses the observation needs for science-quality time series data records, to be called "Earth System Data Records" (ESDRs). These ESDRs will meet the needs of both the research and applied science communities of NASA. The ESDR white papers are intended as a basis for measurement team discussion.
News
Upcoming Meetings
Feedback
Data Providers
Sensor List
FIRSTGOV
Privacy Policy and Important Notices
Curator: Enrique Montano
NASA Official: Edward Masuoka
Last Updated: April 25, 2008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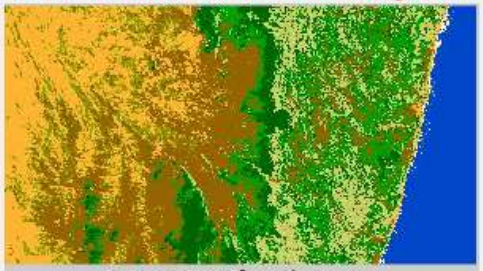
Home Page Components

New Land Products / Projects



East Coast of Madagascar

The POSTEL Service Centre has produced the first global land cover map at 300 m resolution, discriminating the land surfaces in 22 classes, derived from full resolution MERIS / ENVISAT data acquired in the period May 2005 - April 2006. Read more...

Advertise New Products or Projects

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Spatial Resolution Greater Than 1km

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- ATSR -- ERS-1
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- WiFS -- IRS 1C-1D

Spatial Resolution 10m - 1km

Spatial Resolution Less Than 10m

Microwave Sensors

Planned Sensors

Current News

Mar - 2008	EUMETSAT and JRC agree to cooperate on monitoring climate change
Mar - 2008	First Global LC Map at 300m
Mar - 2008	Arctic Ice Returns, Thin and Tentative
Feb - 2008	Earthnet OnLine Interactive Client Launch 5.3.1
Feb - 2008	New RedLaTIF Website

Full Archive Submit Article

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May 6 : May 8, 2008	GEO/CEOS Workshop on QA & Cal/Val

Full Schedule Submit Meeting

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    - Fire Implementation Team
    - Land/Vegetation Direct Readout
  - Climate Observations
  - Terrestrial Carbon

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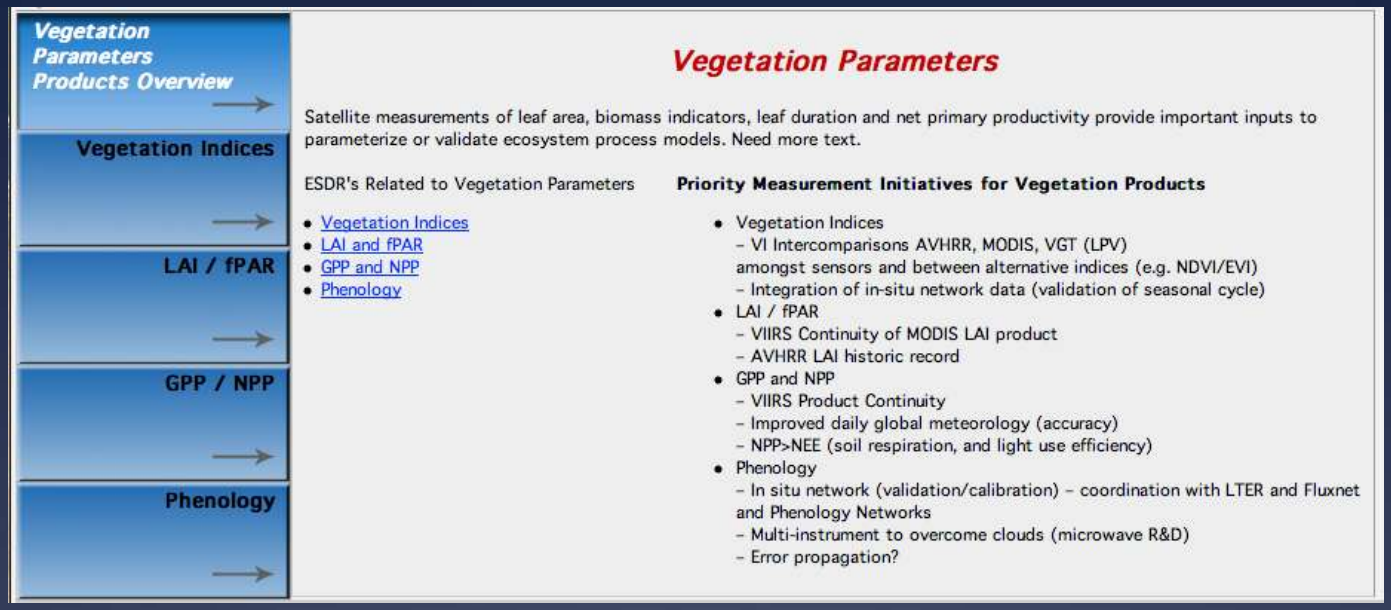
Four Major Categories



Vegetation Parameters Products Overview

Vegetation Indices

LAI / fPAR

GPP / NPP

Phenology

Vegetation Parameters

Satellite measurements of leaf area, biomass indicators, leaf duration and net primary productivity provide important inputs to parameterize or validate ecosystem process models. Need more text.

ESDR's Related to Vegetation Parameters

- Vegetation Indices
- LAI and fPAR
- GPP and NPP
- Phenology

Priority Measurement Initiatives for Vegetation Products

- Vegetation Indices
  - VI Intercomparisons AVHRR, MODIS, VGT (LPV) amongst sensors and between alternative indices (e.g. NDVI/EVI)
  - Integration of in-situ network data (validation of seasonal cycle)
- LAI / fPAR
  - VIIRS Continuity of MODIS LAI product
  - AVHRR LAI historic record
- GPP and NPP
  - VIIRS Product Continuity
  - Improved daily global meteorology (accuracy)
  - NPP>NEE (soil respiration, and light use efficiency)
- Phenology
  - In situ network (validation/calibration) – coordination with LTER and Fluxnet and Phenology Networks
  - Multi-instrument to overcome clouds (microwave R&D)
  - Error propagation?

Land Cover / Land Use Change Products Overview

Land Cover

Vegetation Continuous Field

Fire Disturbance

Land Cover / Land Use Change

Advancements in the quality and availability of many land cover and land cover change products, as well as their improved spatial and temporal coverage have enhanced the range and size of the land user community. Land products are increasingly used operationallly for many applications including forecasting and change detection as well as policy and decision-making.

ESDR's

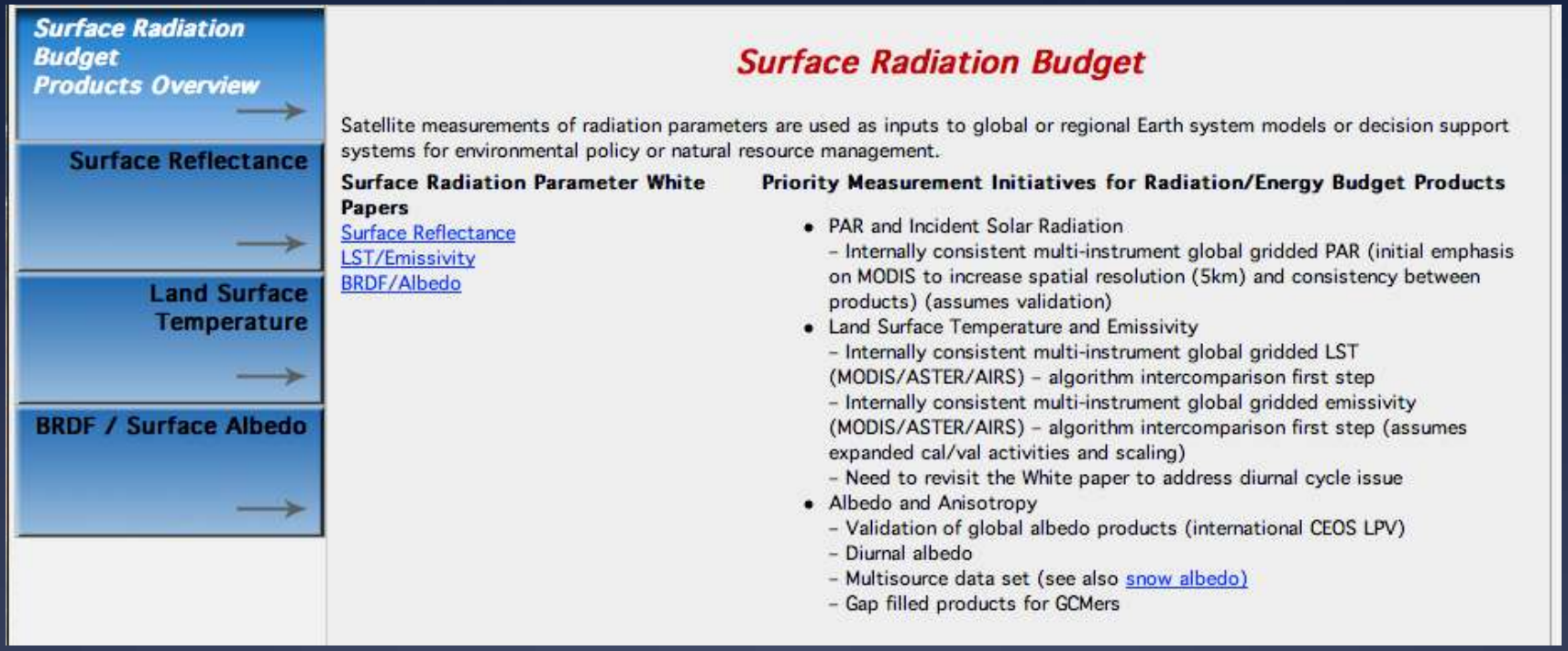
Land Cover and Change

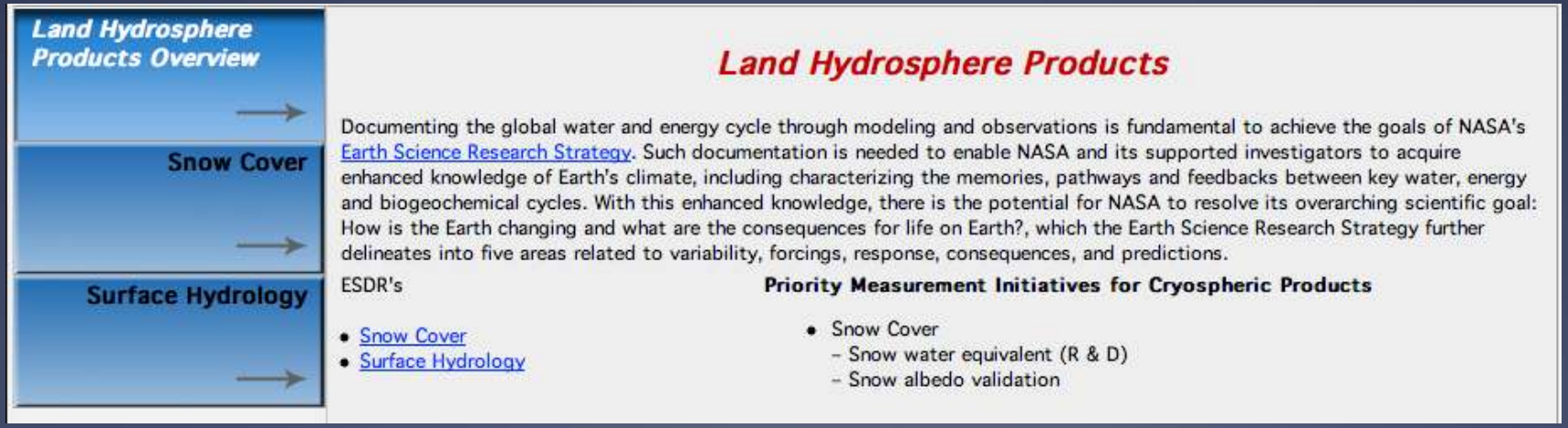
Fire

Priority Measurement Initiatives for Land Cover, Land Cover Change, and Disturbance Products

- Land Cover and Change
  - Mid Decadal Global Land Survey implementation (Phase 2/3)
  - Long Term Data Record (LTDR) AVHRR/MODIS/VIIRS consistent land cover products
  - Reconciliation between land cover and continuous fields
- Land Cover Classification System (LCCS) refinement leading to a hierarchical system and augmentation for seasonal systems (wetlands and agriculture (crop type etc))
- Fire
  - Active Fire/Burned Area from VIIRS (data continuity)
  - Fire Radiative Power research and development and validation
  - Global Burned Area Validation Initiative (international - GOFC/GOLD)

Four Major Categories





Community News

- The portal provides a source for international news and meetings relevant to the land remote sensing community
  - Submissions are gladly accepted
- The portal is also encouraging the development of international coordination and standardization of validation efforts

Products and Sources

MODIS -- Vegetation Indices Product Description Product Validation Information Data Sources	Funding Agency: ***NASA*** Developing Institution: ***University of Arizona*** Reference Paper: ***MODIS Vegetation Index Users Guide***	Spatial Coverage: ***Global*** Spatial Resolution: ***500m*** Temporal Resolution: ***16-day*** Product Archive: ***2000-Present***
MODIS -- Vegetation Indices Product Description Product Validation Information Data Sources	Funding Agency: ***NASA*** Developing Institution: ***University of Arizona*** Reference Paper: ***MODIS Vegetation Index Users Guide***	Spatial Coverage: ***Global*** Spatial Resolution: ***1km*** Temporal Resolution: ***16-day*** Product Archive: ***2000-Present***
MODIS -- Vegetation Indices Product Description Product Validation Information Data Sources	Funding Agency: ***NASA*** Developing Institution: ***University of Arizona*** Reference Paper: ***MODIS Vegetation Index Users Guide***	Spatial Coverage: ***Global*** Spatial Resolution: ***250m*** Temporal Resolution: ***16-day*** Product Archive: ***2000-Present***
MODIS -- Gap-Filled, Smoothed NDVI Product Description No validation information is currently available Data Sources	Funding Agency: ***NASA*** Developing Institution: ***GSFC*** Reference Paper: ***User Guide for MOD09GFS and MOD15GFS***	Spatial Coverage: ***Global*** Spatial Resolution: ***500m*** Temporal Resolution: ***8-day*** Product Archive: ***2000-2006***
MODIS -- Gap-Filled, Smoothed EVI Product Description No validation information is currently available Data Sources	Funding Agency: ***NASA*** Developing Institution: ***GSFC*** Reference Paper: ***User Guide for MOD09GFS and MOD15GFS***	Spatial Coverage: ***Global*** Spatial Resolution: ***500m*** Temporal Resolution: ***8-day*** Product Archive: ***2000-2006***

Sensors

Moderate Resolution Imaging Spectraradiometer (MODIS)

Mission Website:
Terra/Aqua

Agency:
NASA

Mission Lifetime / Length of Archive:	***2000 - Present***
Spatial Coverage:	***Global***
Spatial Resolution:	***250m - 1km***
Temporal Resolution:	***Daily***
Spectral Resolution:	***405-14.385***
Overpass Time:	***10:30am / 1:30pm***

Sensor Products

Vegetation Indicies (7)
GPP / NPP (2)
LAI / fPAR (2)
Surface Reflectance (6)
Land Surface Temperature (6)
BRDF / Surface Albedo (5)
Land Cover (2)
Vegetation Continuous Field (2)
Fire Disturbance (4)
Snow Cover (4)
Surface Hydrology (2)
Phenology (6)

Sensors with Similar Spatial Resolution

- MODIS -- Terra/Aqua
- ASTER -- Terra
- GLI -- ADEOS-2
- MISR -- Terra
- MERIS -- ENVISAT
- RBV -- Landsat 1-2
- MSS -- Landsat 1-5
- TM -- Landsat 4-5
- ETM+ -- Landsat 7
- LISS -- IRS 1A-1D
- WiFS -- IRS 1C-1D
- IR-MSS -- CBERS 1-2
- CCD -- CBERS 1-2
- AWiFS -- IRS ResourceSat 1-2
- DMC -- DMC
- MMRS -- SAC-C
- OLS -- DMSP

Demonstration

* http://landportal.geog.umd.edu/portal/portal_login.php

Username:	betauser
Password:	vDcKX2

Future Directions and Needs

- Product Cal/Val status is the next step in development
  - The portal promotes a coordinated, standardized validation for products
- Further review
  - Corrections or clarifications to products
  - **More sources**
  - New Products
  - What else does the community need or want to see?
- Outreach